

REMARKS

Claims 1, 19 and 28 have been amended. Support for the instant amendments is provided throughout the as-filed application. Applicant believes no new matter has been added. Accordingly, claims 1-3, 5-20 and 22-48 are pending, of which claims 6, 13, 14, 26, 31, 33, 41-43 and 48 are withdrawn. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Applicant submits that claims 1, 19 and 28 are generic of at least one or more claims in this application. Therefore, upon allowance of claims 1, 19 and 28, Applicant respectfully requests rejoinder of claims 6, 13, 14, 26, 31, 33, 41-43 and 48, which claims include all the limitations of an allowable claim. See MPEP § 821.04.

REJECTION UNDER 35 U.S.C. §112, FIRST PARAGRAPH

Claims 1-3, 5, 7-12, 15-20, 22-25, 27-30, 32, 34-40, and 44-47 were rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the written description requirement. Applicant traverses.

Solely in an effort to expedite prosecution, Applicant has amended claims 1, 19 and 28 to remove the word "majority." For at least this reason, the alleged basis for the rejection is moot.

Accordingly, the rejection of claims 1-3, 5, 7-12, 15-20, 22-25, 27-30, 32, 34-40, and 44-47 under 35 U.S.C. §112, first paragraph, should be withdrawn.

REJECTIONS UNDER 35 U.S.C. §102

Claims 1, 2, 7-9, 12, 15-20, 22, 23, 25, 27, 28, 30, 32, and 34-36 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent Application Publication No. 2005/034815 A1 to Van Santen, *et al.* (hereinafter "Van Santen"). Applicant respectfully traverses this rejection.

Applicant submits that the cited portions of Van Santen do not disclose or teach a lithographic apparatus comprising, *inter alia*, a liquid supply system configured to supply a liquid to substantially only a localized area of the substrate, of the substrate table, or

of both, to at least partly fill a space between the projection system and the substrate, the substrate table, or both, the localized area being less than the area of a surface of the whole substrate, wherein the supplied liquid is confined to the localized area, while in normal use, in a controlled manner except for uncontrolled escaping liquid, and wherein the substrate table comprises a barrier configured to collect liquid escaping from the localized area, the barrier surrounding and spaced apart from the substrate and comprising a projection which projects out above an upper surface of the substrate when the substrate is held on the substrate table and a groove recessed into an upper surface of the substrate table to collect escaping liquid, as recited in claim 1.

Similarly, Applicant submits that the cited portions of Van Santen do not disclose or teach a device manufacturing method comprising, *inter alia*, providing a liquid to substantially only a localized area of a substrate, of a substrate table, or of both, to at least partly fill a space between a projection system and the substrate, the substrate table, or both, the localized area being less than the area of a surface of the whole substrate; and collecting uncontrolled liquid escaping from the localized area with a barrier, the barrier surrounding and laterally spaced apart from the substrate and comprising a projection which projects out above an upper surface of the substrate when the substrate is held by the substrate table and a groove recessed into an upper surface of the substrate table to collect escaping liquid, wherein the supplied liquid is confined to the localized area, while in normal use, in a controlled manner except for uncontrolled escaping liquid, as recited in claim 19.

In addition, Applicant submits that the cited portions of Van Santen disclose or teach a lithographic apparatus comprising, *inter alia*, a liquid supply system configured to supply a liquid to substantially only a localized area of the substrate, of the substrate table, or of both, to at least partly fill a space between the projection system and the substrate table, or both, the localized area being less than the area of a surface of the whole substrate, wherein the majority of supplied liquid is confined to the localized area, while in normal use, in a controlled manner except for uncontrolled escaping liquid, and wherein the substrate table comprises a barrier configured to collect liquid escaping from the localized area, the barrier surrounding and spaced apart

from the substrate and positioned radially outwardly of a drainage ditch, surrounding an outer peripheral edge of the substrate, to collect escaping liquid, as recited in claim 28.

For example, paragraph [0017] of Van Santen discloses that "... in use, the immersion liquid is allowed to leak out of the space between the bottom of the barrier member and the substrate and is thereby not constrained in the space." (emphasis added). Further, paragraph [0054] of Van Santen also discloses "[n]o provision is made, for example, during scanning, to seal the space to avoid loss of immersion liquid." (emphasis added).

As such, the cited portions of Van Santen do not disclose that supplied liquid is confined to the recited localized area, while in normal use, in a controlled manner except for uncontrolled escaping liquid, the localized area being less than the area of a surface of the whole substrate. Instead, paragraph [0053] of Van Santen discloses that, in normal use, all or most immersion fluid 5 flows out from under the barrier member 10 in a controlled manner to cover the entire substrate W and/or substrate table WT with immersion fluid 5. See also Figure 4 of Van Santen.

The Office Action further asserts, though, that "[o]utlet 60 would help confine the liquid to a localized area on the substrate." Office Action, page 3. However, the cited portions of Van Santen fail to disclose supplying liquid to substantially only the recited localized area and that liquid is confined to this localized area, while in normal use, in a controlled manner except for uncontrolled escaping liquid. Rather, Figure 4 of Van Santen, which shows outlet 60, depicts the entire surface of both the substrate and the substrate table covered in liquid in normal use. The cited portions of Van Santen, at most, teach that liquid may be removed from the surface of the substrate W, the substrate table WT, the substrate table mounted sensor 70 or the shutter member 80 by one or more of outlets 60, 63, 66. See Van Santen, ¶ 59.

By contrast, according to an aspect of Applicant's invention, the supplied liquid is confined to only the localized area, while in normal use, in a controlled manner. And, it is only because, for instance, that liquid containment fails or is ineffective, that liquid might escape from the localized area in an uncontrolled manner. See, e.g., Applicant's Specification, ¶ 6.

Therefore, for at least the above reasons, Applicant submits that the cited portions of Van Santen fail to teach or disclose each and every feature recited by claims 1, 19 and 28. Claims 2, 7-9, 12, 15-18, 20, 22, 23, 25, 27, 30, 32, and 34-36 depend from claims 1, 19 and 28 and are patentable for at least the same reasons provided above related to claims 1, 19 and 28, and for the additional features recited therein. As a result, Applicant respectfully submits that the rejection under 35 U.S.C. §102(e) of claims 1, 2, 7-9, 12, 15-20, 22, 23, 25, 27, 28, 30, 32 and 34-36 over Van Santen should be withdrawn and the claims be allowed.

Claims 1, 2, 7-9, 15-20, 22, 23, 28, 32, and 34-36 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent Application Publication No. 2004/0160582 A1 to Lof, *et al.* (hereinafter "Lof"). Applicant respectfully traverses this rejection.

Applicant submits that the cited portions of Lof do not disclose or teach each and every feature of claims 1, 19 and 28.

The Office Action asserts that elements 220 and 117 of Lof are each the recited barrier. See Office Action, pages 6-7. Applicant respectfully disagrees with the Office Action's characterization of the cited portion of Lof.

For instance, Lof discloses that elements 220 and 117 are a transmission sensor and an edge seal member, respectively. See Lof, ¶¶ 136 & 174. Even assuming *arguendo* that the sensor 220 and/or the edge seal member 117 of Lof might be considered a barrier (which Applicant does not concede), that would mean that sensor 220 and the edge seal member 117 would each have to be configured to collect liquid escaping from the recited localized area of the substrate, the substrate table, or both. They clearly are not.

First, the transmission sensor 220 of Lof does not appear to have a projection which projects out above an upper surface of the substrate when the substrate is held on the substrate table as recited in claims 1 and 19. Indeed, contrary to the Office Action's remarks, Lof discloses that "[t]he top surface of the transmission image sensor 220 and the substrate W are substantially co-planar." Lof, ¶ 174 (emphasis added).

Similarly, edge seal member 117 in Figure 8a does not appear to include any projection which projects out above an upper surface of the substrate when the substrate is held on the substrate table as recited in claims 1 and 19. See Lof ¶ 124 ("Especially in the case of the edge seal member 117 being an integral part of the substrate table WT, ... the primary surfaces of the edge seal member 17, 117 and the substrate can be made substantially co-planar.") and ¶ 151 ("the primary surfaces of the substrate W and the edge seal member 117 ... are substantially co-planar").

Further, there is no indication that transmission sensor 220 collects liquid escaping from the recited localized area of the substrate, the substrate table, or both. Rather, any liquid in the recited localized area or that escapes from the recited localized area appears to be above plate 210, which is located between the liquid supply system and the substrate W. Thus, plate 210 appears to prevent such liquid from collecting in space 222 or reaching sensor 220.

Similarly, the Office Action fails to show that the edge seal member 117 of Lof is configured to collect any liquid, let alone liquid escaping from the recited localized area of the substrate, the substrate table, or both. For example, Applicant submits that the planar top surface of the edge seal member 117 does not appear capable of *collecting* any liquid. See Lof, Figure 8a.

Therefore, for at least the above reasons, Applicant submits that the cited portions of Lof fail to teach or disclose each and every feature recited by claims 1, 19 and 28. Claims 2, 7-9, 15-18, 20, 22, 23, 32, and 34-36 depend from claims 1, 19 and 28 and are patentable for at least the same reasons provided above related to claims 1, 19 and 28, and for the additional features recited therein. As a result, Applicant respectfully submits that the rejection under 35 U.S.C. §102(e) of claims 1, 2, 7-9, 15-20, 22, 23, 28, 32 and 34-36 over Lof should be withdrawn and the claims be allowed.

CONCLUSION

Having addressed each of the foregoing rejections, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, the application is in condition for allowance. Notice to that effect is respectfully requested.

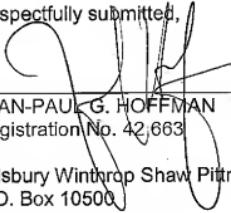
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

If an extension of time is necessary to prevent abandonment of this application, then such an extension of time is hereby petitioned for under 37 C.F.R. §1.136(a). Any fees required (including fees for net addition of claims) are hereby authorized to be charged to Deposit Account No. 033975 (Ref. No. 081468-0309196).

Date: April 5, 2010

Customer No.: 00909

Direct: (703) 770-7794
Main: (703) 770-7900
Fax: (703) 770-7901

Respectfully submitted,

By:

JEAN-PAUL G. HOFFMAN
Registration No. 42,663

Pillsbury Winthrop Shaw Pittman LLP
P.O. Box 10500
McLean, Virginia 22102